

REMARKS

Claims 1-16 are pending. Claims 1-16 have been rejected.

Claims 1 and 7-11 are rejected under 35 U.S.C. §103(a) as being obvious over U.S. Patent No. 6,280,154 to Clendenin ("Clendenin '154") in view of U.S. Patent No. 4,186,319 to Dochterman ("Dochterman '319"). Claims 2-6 and 12-16 are rejected under 35 U.S.C. §103(a) as being obvious over Clendenin '154 in view of Dochterman '319 in further view of U.S. Patent No. 5,929,545 to Fargo ("Fargo '545"). The Examiner has objected to the phrase "bearing surfaces" in Claims 1, 12, and 14. Responsive thereto, Applicants have replaced "bearing surfaces" with "contact surfaces." Therefore, Applicants respectfully request that the Examiner remove his objection to Claims 1, 12, and 14.

Clendenin '154 discloses scroll compressor 10 which includes a compressor mounting frame 22 press fit within shell 12. Compressor mounting frame 22 includes a two-piece main bearing housing 24, a lower bearing housing 26, and a motor stator 28. Crankshaft 30 has an upper end rotatably journaled in bearing 34, secured within a main bearing housing 24, and second bearing 36, secured at lower bearing housing 26.

Dochterman '319 discloses end shield 14 connected to shell 12. Shell 12 includes a rotor and stator. Rotor shaft 18 extends through end shield 14 and is connected to the rotor. End shield 14 has a plurality of openings for receiving mounting bolts 42 to connect end shield 14 to shell 12. End shield 14 includes central annular portion 30 coplanar with spokes 32 and a peripheral edge portion 34. Wedge shaped areas 36 are positioned between spokes 32 and are depressed inwardly.

Fargo '545 discloses end shield 20 having an inner face 30. Inner face 30 has a plurality of openings 34 alignable with holes 28 in stator 22 for attaching end shield 20 to stator 22.

Applicants respectfully submit that amended independent Claim 1, as well as Claims 7-11 which depend therefrom, are not obvious over Clendenin '154 in view of Dochterman '319. Specifically, amended independent Claim 1 calls for, *inter alia*, a motor including a rotor and a stator, the stator having a plurality of stacked laminations, and a bearing support having a central body, an outer ring, and a support structure connecting the central body and the outer ring, the outer ring having a plurality circumferentially distributed contact surfaces compressively abutting

the first end of the stator and a plurality of recesses positioned between the circumferentially distributed contact surfaces, the contact surfaces causing axially extending bulges in the plurality of stacked laminations at the first end of the stator, the bulges aligned with and received in the plurality of recesses. Neither Clendenin '154 nor Dochterman '319 disclose a bearing support having a plurality of circumferentially distributed contact surfaces compressively abutting the stator and a plurality of recesses between the contact surfaces, the contact surfaces creating axially extending bulges in the plurality of stacked laminations at the first end of the stator, the bulges aligned with and received in the plurality of recesses.

Specifically, Dochterman '319 provides no indication that end shield 14 could be connected so that wedge shaped areas 36 apply a compressive force to the stator as required by amended independent Claim 1. Assuming, *arguendo*, that the end shield of Dochterman '319 could be configured to allow wedge shaped areas 36 to apply a compressive force to the stator, Dochterman '319 provides no indication that axially extending bulges would be formed in the stator or that any bulge formed would be aligned with and received within spokes 32 as required by amended independent Claim 1. In fact, the large surface area of wedge shaped areas 36 in contact with the stator would likely prevent bulges in the stator from being formed or, if formed, from being received in the substantially smaller area comprising spokes 32. Preventing bulges in the stator from forming would result in an increased force applied by the stator against the wedge shaped areas and lead to deformation of the end shield. When the end shield or bearing support of a motor becomes deformed, the axis of the rotor shaft through the motor may become misaligned. This causes unnecessary wear to the motor, shortening its life and potentially causing the motor to fail. Advantageously, the present invention prevents deformation of the bearing support by receiving within recesses in the bearing support the bulges in the stator. Additionally, Clendenin '154 does not disclose or suggest a bearing support having contact surfaces and a plurality of recesses between the contact surfaces.

For the foregoing reasons, Applicants respectfully submit that amended independent Claim 1, as well as Claims 2-11 which depend therefrom, are not obvious over Clendenin '154 in view of Dochterman '319.

Applicants respectfully submit that Claims 12, 2-6, and 13-16 are not obvious over Clendenin '154 in view of Dochterman '319 in further view of Fargo '545. Amended independent Claim 12 calls for, *inter alia*, providing a motor having a laminated stator and a rotor, providing a

bearing support member having a central body, a plurality of circumferentially distributed contact surfaces lying in a common plane, and a plurality of recesses positioned between the circumferentially distributed contact surfaces, the bearing support member compressively engaging one end of the laminated stator with a plurality of circumferentially distributed contact surfaces at least until an axially extending bulge is formed in at least one stator lamination, the bulge aligning with and extending into at least one of the recesses. The Examiner relies on Fargo '545 for disclosing an end plate connectable to a stator. Assuming, *arguendo*, that end plate 14 of Dochterman '319 could be connected to a stator, Dochterman '319 provides no indication that the end plate would have a bulge aligned with and extending into at least one of the recesses as required by amended independent Claim 12, and as discussed in detail above with respect to amended independent Claim 1. Moreover, neither Clendenin '154 nor Fargo '545 disclose or suggest a bearing support member compressively engaging one end of the laminated stator with a plurality of circumferentially distributed contact surfaces at least until an axially extending bulge is formed in at least one stator lamination.

Dependent Claims 2-6 are allowable for at least the reasons discussed above with reference to amended independent Claim 1. Additionally, dependent Claim 2 calls for, *inter alia*, the outer ring of the bearing support defining a plurality of holes and a plurality of fasteners extend through the holes and compressively biasing the outer ring against the stator. Assuming, *arguendo*, that the end shield 14 of Dochterman '319 could be connected directly to a stator, the outer ring would not be compressively biased against the stator as required by dependent Claim 2. Peripheral edge portion 34 of Dochterman '319 is the only portion that meets the limitations of the outer ring called for in dependent Claim 2. If peripheral edge portion 34 was connected to a stator by fasteners 42, fasteners 42 would be prevented from compressively biasing the peripheral edge portion 34 against the stator by wedge shaped areas 36. Wedge shaped areas 36 extend past peripheral edge portion 34 and would contact the stator prior to peripheral edge portion 34. Neither Clendenin '154 nor Fargo '545 provide a motivation to alter end shield 14 of Dochterman '319 to allow the peripheral edge portion 34 to contact the stator.

Therefore, Applicants respectfully submit that amended independent Claim 12, as well as Claims 13-16 which depend therefrom, and Claims 2-6 are not obvious over Clendenin '154 in view of Dochterman '319 in further view of Fargo '545.

Application Serial No. 10/617,475
Amendment dated January 23, 2006
Reply to Office Action dated October 26, 2005

It is believed that the above represents a complete response to the Official Action and reconsideration is requested. Specifically, Applicants respectfully submit that the application is in condition for allowance and respectfully request allowance thereof.

In the event Applicants have overlooked the need for an additional extension of time, payment of fee, or additional payment of fee, Applicants hereby petition therefore and authorize that any charges be made to Deposit Account No. 02-0385, Baker & Daniels.

Should the Examiner have any further questions regarding any of the foregoing, he is respectfully invited to telephone the undersigned at (260) 424-8000.

Respectfully submitted,



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I hereby certify that this correspondence is being deposited with the United States Postal Service as First Class Mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on: January 23, 2006

MATTHEW B. SKAGGS, REG. NO. 55,814

Name of Registered Representative


Signature

January 23, 2006

Date